

Guest editorial

Nuclear medicine in South Africa

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Why should an issue of *CME*, a publication primarily directed at generalists, be devoted to nuclear medicine? I am reminded from time to time of how unfamiliar many of my colleagues are with this specialty, which is not surprising given the minimal coverage the field receives in already full undergraduate medical school programmes – even specialty-specific postgraduate exposure is often limited. Consequently, there is a paucity of knowledge of the role, indications, availability, and cost of many nuclear medicine procedures in the wider clinical community. Optimal nuclear medicine is heavily reliant on close collaboration with referring clinicians. Two prerequisites for a clear, useful report is a clear definition of the clinical question and the study being appropriate to answer that question. It is primarily the responsibility of nuclear medicine physicians to advise colleagues on what studies can do and, sometimes more importantly, cannot do. However, if referring doctors have a good understanding of the role of nuclear medicine in their field, the contribution of the discipline to the management of their patients is likely to be enhanced. This issue of *CME* is therefore intended to inform and update the wider medical community about some of the more important studies and procedures available.

It has been 20 years since an issue of *CME* focused on nuclear medicine. In the issue of October 1993, titled 'Imaging for the

non-radiologist', several articles covered subject matter that remains relevant in South Africa today. In the current issue several articles focus on established areas. These include an article on functional brain imaging, and articles on nuclear cardiology by Dr Carlos Libhaber, infection imaging by Professor Willy Vangu, and paediatric nuclear medicine by Dr Anita Brink. The content of this issue also reflects changes that have occurred over the last two decades. These include the convergence of functional and anatomical imaging, molecular imaging, targeted radiotherapy, and the increasing individualisation of patient management. In particular, a number of studies have entered routine use in oncology, of which the most important is positron emission tomography (PET), which was not available in South Africa 20 years ago and is now well established in large centres. In their articles Professor Annare Ellmann, Dr Jen Holness, and Dr Tessa Kotze cover the most important areas of oncology in which nuclear medicine currently plays a role. The use of unsealed sources of radioactivity for targeted radiotherapy, another area which has undergone significant growth, is covered in an article by Professor Mike Sathekge.

An important development is the arrival of hybrid imaging systems. Previously, single photon emission computed tomography (SPECT) and PET scans were performed and

mostly interpreted in isolation. Combined PET/CT and SPECT/CT scanners have become commonplace over the last 10 years. This development is significant, not only as a technological advance but more importantly because it is changing the way we work and think both within nuclear medicine and in our interaction with colleagues. Specifically, the interdependence of nuclear medicine and radiology resulting from hybridisation of functional and anatomical imaging is bringing the two disciplines into a more collaborative relationship, which ultimately benefits patients. In an article that Professor Jan Lotz and I co-authored, we have attempted to illustrate this interaction using a diverse selection of clinical situations.

Nuclear medicine is often associated with costly examinations, although this should not be true for the majority of studies. Further, while some studies are relatively costly to perform, if used appropriately they can reduce the overall cost of patient management, e.g. by avoiding futile surgery, ineffective chemotherapy, or more costly and invasive investigations, as well as sparing patients unnecessary side-effects. With the growing challenge of the escalating cost of healthcare and the National Health Insurance on the horizon in South Africa, the cost-effective utilisation of all disciplines, including nuclear medicine, is essential. It is hoped that this issue of *CME* will make some contribution towards that objective.